

# ACRONYMS AND ABBREVIATIONS

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<b>AAPG</b>	American Association of Petroleum Geologists
<b>AEO</b>	Annual Energy Outlook, EIA
<b>AESF</b>	Applied Energy Studies Foundation
<b>AGA</b>	American Gas Association
<b>ANGA</b>	America's Natural Gas Alliance
<b>ANSI</b>	American National Standards Institute
<b>ANWR</b>	Arctic National Wildlife Refuge
<b>API</b>	American Petroleum Institute
<b>Bcf</b>	billion cubic feet
<b>Bcf/d</b>	billion cubic feet per day
<b>BOEM</b>	Bureau of Ocean Energy Management, DOI
<b>BOEMRE</b>	Bureau of Ocean Energy Management, Regulation and Enforcement, DOI
<b>BOP</b>	blowout preventer
<b>BPA</b>	Bonneville Power Administration, DOE
<b>BSEE</b>	Bureau of Safety and Environmental Enforcement, DOI
<b>Btu</b>	British thermal units
<b>CAD</b>	computer-aided design
<b>CAGR</b>	compound annual growth rate
<b>CATR</b>	Clean Air Transportation Rule
<b>CBNG</b>	coalbed natural gas
<b>CCS</b>	carbon capture and sequestration
<b>CEQA</b>	California Environmental Quality Act
<b>CFR</b>	Code of Federal Regulations
<b>CHOPS</b>	cold heavy oil production with sand
<b>CHP</b>	combined heat and power
<b>CMSP</b>	coastal and marine spatial planning

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<b>CNLOPB</b>	Canada-Newfoundland and Labrador Offshore Petroleum Board
<b>CNSOPB</b>	Canada-Nova Scotia Offshore Petroleum Board
<b>CO<sub>2</sub></b>	carbon dioxide
<b>CO<sub>2</sub>e</b>	carbon dioxide equivalent
<b>CWA</b>	Clean Water Act
<b>CWAV</b>	cost-weighted average volume
<b>CZMA</b>	Coastal Zone Management Act
<b>DOE</b>	U.S. Department of Energy
<b>DOI</b>	U.S. Department of the Interior
<b>DOT</b>	U.S. Department of Transportation
<b>EF</b>	environmental footprint
<b>EHS</b>	environmental, health and safety
<b>EIA</b>	U.S. Energy Information Administration
<b>EMS</b>	Environmental Management Systems
<b>EOR</b>	enhanced oil recovery
<b>EPA</b>	U.S. Environmental Protection Agency
<b>ERCB</b>	Energy Resources Conservation Board, Alberta
<b>FERC</b>	U.S. Federal Energy Regulatory Commission
<b>FFC</b>	full fuel cycle
<b>FTF</b>	Future Transportation Fuels (NPC study)
<b>FWPCA</b>	Federal Water Pollution Control Act
<b>GDP</b>	gross domestic product
<b>GHG</b>	greenhouse gas
<b>GRI</b>	Global Reporting Initiative
<b>GW</b>	gigawatt
<b>GWP</b>	global warming potential
<b>GWPC</b>	Ground Water Protection Council
<b>HAP</b>	hazardous air pollutants
<b>HDV</b>	heavy-duty vehicles
<b>IEA</b>	International Energy Agency
<b>INGAA</b>	Interstate Natural Gas Association of America
<b>IOCC</b>	Interstate Oil Compact Commission (became IOGCC in 1991)
<b>IOGCC</b>	Interstate Oil and Gas Compact Commission
<b>IOR</b>	improved oil recovery

<b>IPAA</b>	Independent Petroleum Association of America
<b>ISO</b>	independent system operators
<b>kWh</b>	kilowatt hour
<b>LAUF</b>	lost and unaccounted for gas
<b>LCA</b>	life-cycle assessment
<b>LCOE</b>	levelized cost of electricity
<b>LDC</b>	local distribution companies
<b>LDV</b>	light duty vehicles
<b>LNG</b>	liquefied natural gas
<b>LPG</b>	liquefied petroleum gas
<b>MACT</b>	Maximum Achievable Control Technology
<b>MMBtu</b>	million British thermal units
<b>Mcf</b>	thousand cubic feet
<b>MIT</b>	Massachusetts Institute of Technology
<b>MMcf/d</b>	million cubic feet per day
<b>MMS</b>	Minerals Management Service, DOI
<b>MWh</b>	megawatt hour
<b>NAESB</b>	North American Energy Standards Board
<b>NEB</b>	National Energy Board of Canada
<b>NEMS</b>	National Energy Modeling System, EIA
<b>NEPA</b>	National Environmental Policy Act
<b>NERC</b>	North American Electric Reliability Corporation
<b>NETL</b>	National Energy Technology Laboratory, DOE
<b>NGCC</b>	natural gas combined cycle
<b>NGL</b>	natural gas liquids
<b>NGSA</b>	Natural Gas Supply Association
<b>NGV</b>	natural gas vehicle
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>NOx</b>	nitrogen oxides
<b>NPC</b>	National Petroleum Council
<b>NPR-A</b>	National Petroleum Reserve–Alaska
<b>NYMEX</b>	New York Mercantile Exchange
<b>OCS</b>	Outer Continental Shelf
<b>OCSLA</b>	Outer Continental Shelf Lands Act

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<b>OPEC</b>	Organization of the Petroleum Exporting Countries
<b>PADD(s)</b>	Petroleum Administration for Defense Districts
<b>PEV</b>	plug-in electric vehicles
<b>RD&amp;D</b>	research, development, and demonstration
<b>RFF</b>	Resources for the Future
<b>ROZ</b>	residual oil zones
<b>RTO</b>	regional transmission operators
<b>SAGD</b>	steam-assisted gravity drainage
<b>SARA</b>	Superfund Amendments and Reauthorization Act
<b>SCO</b>	synthetic crude oil
<b>SDWA</b>	Safe Drinking Water Act
<b>SO<sub>x</sub></b>	sulfur oxides
<b>STRONGER</b>	State Review of Oil and Natural Gas Environmental Regulations
<b>TAPS</b>	Trans-Alaska Pipeline System
<b>Tcf</b>	trillion cubic feet
<b>UIC</b>	underground injection control
<b>USCG</b>	U.S. Coast Guard
<b>USGS</b>	United States Geologic Survey, DOI

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# CONVERSION FACTORS

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## Measurement

1 barrel = 42 U.S. gallons = 159 liters = 0.16 cubic meters (m<sup>3</sup>)

1 cubic foot = 0.0283 cubic meters (m<sup>3</sup>)

1 cubic meter = 35.314 cubic feet (ft<sup>3</sup>)

1 short ton = 2000 lb = 0.91 metric tons

## Energy

1 joule = 948,200 Btu

1 barrel of crude = 5.8 million Btu = 5.604 cubic feet of gas = 0.022 tons bituminous coal

1 cubic foot of natural gas = 1,028 Btu = 0.000178 barrels of oil = 0.000040 tons of bituminous coal

1 billion cubic feet per day of natural gas = 0.375 quadrillion Btu per year

1 short ton of coal = 20.06 million Btu

1 kilowatt hour of electricity = 3,412 Btu

1 barrel of motor gasoline = 5.082 million Btu

1 barrel of distillate fuel = 5.775 million Btu

1 barrel of residual fuel oil = 6.287 million Btu